

**ABSTRACT OF THE DISCLOSURE**

The invention provides for canine genes indicative of toxicological responses to agents such as drugs, pharmaceutical compounds, or chemicals. Methods of identifying and isolating toxicologically relevant canine gene are disclosed. In addition, an array comprising toxicologically relevant canine genes, methods of making a canine gene array, and methods of using a canine gene array in which toxicological responses can analyzed in a rapid and efficient manner are also provided. The methods disclosed herein are also useful for discovering and obtaining novel canine genes. Primers and sequences of novel canine genes are also disclosed.